

REMARKS

The Office Action mailed May 23, 2011, has been received and its contents carefully noted. Claims 1-44 are pending, and claims 1-20, 43 and 44 were rejected. Claims 21-42 are currently withdrawn from consideration. By this amendment, claims 1, 4, 14, 16, 22, 24, 26, 28, 33, 38 and 41 have been amended; claims 21, 27 and 35-37 have been canceled, and claim 45 has been added. Support may be found in the specification and the claims as originally filed. No statutory new matter has been added. Therefore, reconsideration and entry of the claims as amended are respectfully requested.

Request for Inclusion of Withdrawn Claim 42, Relative to Elected Subject Matter

Applicants respectfully submit that claim 42 was erroneously omitted from the groupings of restricted inventions listed in the Requirement for Restriction mailed March 21, 2011. As a result, claim 42 was subsequently omitted from the Election filed in response to the Restriction.

Applicants submit that claim 42, being dependent from elected claim 1, is properly categorized as a claim within the elected group I, which is inclusive of claims 1-20 and 42-44.

Therefore, Applicants request that claim 42 be included within the elected claims, and that all future Actions address the subject matter of claim 42 on the merits.

Rejection under 35 U.S.C. §112, second paragraph

The Examiner rejected claim 4 under 35 U.S.C. §112, second paragraph, as indefinite. In particular, the Examiner deemed the language "said wing extensions" (line 1) to lack antecedent basis in the claim.

By this Response, claim 4 has been amended to depend from claim 3. Applicants submit that antecedent basis for the above-cited language is provided, as for example, at line 2 of claim 3.

Therefore, Applicants respectfully submit that the claim 4, as amended, is clear and definite, and that the rejection under 35 U.S.C. §112, second paragraph, should be withdrawn.

Rejection under 35 U.S.C. §112, fourth paragraph

The Examiner rejected claim 16 under 35 U.S.C. §112, fourth paragraph, as failing to further limit the subject matter of a previous claim.

By this response, claim 16 has been amended to be written in independent form.

Therefore, Applicants respectfully submit that the rejection under 35 U.S.C. §112, fourth paragraph is moot and should be withdrawn.

Art Rejections

The Examiner rejected claims 1-20, 43 and 44 on the grounds as shown in the following "Table I":

<u>ID</u>	<u>Claims</u>	<u>Statutory Grounds</u>	<u>Reference(s)</u>
A	<u>I</u> -3, 5, 9, 12, 18, 42 and 43	35 U.S.C. §102(b)	Cherfane (US 5,246,143).
B	<u>I</u> , 2, 6-10, 13, 15, 19, 20, 43 and 44	35 U.S.C. §103(a)	Bertram, et al. (US 5,215,226) in view of Brown (US 5,529,245).
C	4, 10 and 11	35 U.S.C. §103(a)	Cherfane
D	14, 16 and 17	35 U.S.C. §103(a)	Same as B above, further in view of Feldpausch (US 3,389,727).

Rejections under 35 U.S.C. §§ 102(b) and 103(a)

Claim 1

The Examiner rejected claims I-3, 5, 9, 12, 18, 42 and 43 under 35 U.S.C. §102(b) as being anticipated by Cherfane; and rejected claims I, 2, 6-10, 13, 15, 19, 20, 43 and 44 under 35 U.S.C. §103(a) as unpatentable over Bertram in view of Brown.

Applicants respectfully submit that the cited documents, alone or in combination, do not teach or suggest the claimed invention. In particular, the cited documents do not teach or suggest an elongated heater cartridge received within an access cavity in said manifold extending essentially parallel with first and second material passageways, and configured to maintain a desired dispense material temperature, as set forth in the present claim 1.

Applicants submit that none of the cited documents disclose a heater cartridge, let alone a heater cartridge as set forth in the present claim 1.

Therefore, Applicants respectfully submit that claim 1, as amended, as well as any claim depending therefrom, is novel and unobvious, and that the rejections under 35 U.S.C. §§ 102(b) and 103(a) should be withdrawn.

Claim 16

By this Response, claim 16 has been amended to be written in independent form. The

Examiner rejected claims 14, 16 and 17 under 35 U.S.C. §103(a) as unpatentable over Bertram in view of Brown, and further in view of Feldpausch.

In particular, the Examiner cited Bertram as disclosing a fluid injection device comprising a ball screw, which the Examiner asserted as corresponding to the claimed embodiment of Applicants' dispenser comprising a ball screw transmission. The Examiner acknowledged, however, that Bertram does not disclose the ball screw having a pitch angle that is less than 11 degrees. Therefore, the Examiner cited Feldpausch as disclosing a screw driving tool having a ball-groove assembly 16/19/20; and further disclosing that the axial thrust of the ball-groove assembly is determined, in part, by the pitch of the grooves 20 guiding the balls 16. In view of the disclosure in Feldpausch, the Examiner asserted that a person having ordinary skill in the art would have been motivated to adjust the pitch of the ball screw in Bertram to be less than 9 degrees (and therefore also less than 11 degrees) for the purpose of achieving a desired amount of axial thrust.

Applicants respectfully submit that a person having ordinary skill in the relevant art would not have been motivated by the cited documents to provide the ball-screw mechanism in Bertram with a screw angle pitch of less than 11 degrees.

In particular, it has been observed by Applicants' that prior hand dispensers comprising a ball-screw drive transmission are susceptible to a failure in operation, referred to herein as "free-wheeling". In a free-wheeling failure, the screw of the ball-screw drive will turn, but the nut does not advance on the screw. This free-wheeling failure of the ball-screw mechanisms in prior hand held dispensers rendered the dispensers unreliable and resulted in significant downtime and decreased production. See page 9, line 10 to page 10, line 2 of Applicants' specification.

In seeking to address the issue of free-wheeling failures, Applicants observed that such failures results from the ball-screw mechanism undergoing a slipping action as opposed to an advancement action. In this regard, Applicants noted that prior art dispensers employed a ball-screw mechanism having a pitch angle of 11 degrees or more. See See page 9, line 10 to page 10, line 2 of Applicants' specification. It is submitted that such a screw angle is used in the prior dispensers for the purpose of achieving a desirable degree of force relative to the operation condition and requirements associated with the prior dispensers (e.g., having sufficient power so as to avoid the dispenser unnecessarily going offline as a result of lock-ups due to minor states of material adhesion). It was discovered by Applicants, however, that if the pitch angle of the ball-

screw mechanism is lowered to below 11 degrees, that the occurrence of free-wheeling failures is significantly decreased. As a result, the dispenser is made more reliable, and there is realized a decrease in downtime and an increase in production. See page 9, line 10 to page 10, line 5 of Applicants' specification. This adjustment in decreasing pitch angle was made at the expense of other drive characteristics associated with the drive arrangement, and thus represents a change that goes against the perceived status quo requirements existing in the prior art dispensers.

As acknowledged by the Examiner, Bertram, though disclosing a ball-screw mechanism, does not teach or suggest anything about a ball-screw having a particular pitch angle, let alone a pitch angle of less than 11 degrees. In addition, although Feldpausch discloses a ball-screw mechanism, and recognizes a relation between the pitch angle and an axial thrust force, Feldpausch fails to appreciate the intricacies in achieving a ball-screw pitch angle which results in a decreased occurrence of slippage (e.g., free-wheeling failures). Instead, Feldpausch only discloses that the pitch angle is related to the axial thrust (e.g., an increased angle results in an increased axial thrust). As such, Applicants submit that Feldpausch would not have motivated a person having ordinary skill in the art to decrease the ball-screw pitch angle in Bertram to less than the common 11 degrees; as such a modification would result in a decreased axial thrust force for pushing the material through the hand dispenser., and a perception in the art as to a decreased ability to break through anticipated lock-ups due to minor states of material adhesion.

Accordingly, Applicants submit that neither of Bertram and Feldpausch teaches or suggests the problem solved by, or the benefits that are achieved by, Applicants' dispenser having a ball-screw with a pitch angle of less than 11 degrees; and that a person having ordinary skill in the art would not have been motivated by the cited documents to provide a hand held dispenser having a ball-screw transmission with a pitch angle of less than 11 degrees.

Therefore, Applicants respectfully submit that claim 16, as amended, as well as any claim depending therefrom, is novel and unobvious, and that rejection under 35 U.S.C. § 103(a) should be withdrawn.

Request for Rejoinder of Withdrawn Claims 22-26, 28-34 and 38-41

Withdrawn claims 22-26, 28-34 and 38-41 have been amended to depend from, and therefore include the subject matter of, claim 1. Accordingly, Applicants request that these claims be rejoined and examined on the merits with claim 1.

Request for Interview

Either a telephonic or an in-person interview is respectfully requested should there be any remaining issues.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Therefore, it is respectfully requested that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Official action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, in the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. §1.136(a). If any additional fees are required, such as fees under 37 CFR §§ 1.16 or 1.17, such fees are requested and hereby authorized to be charged to **Deposit Account No. 024300, Attorney Docket No. 034016 R 016US.**

Respectfully submitted,



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